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# Science and International Security: Responding to a Changing World

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battles that Gray cites with a presumption of the reader's knowledge; one could as easily note Gray's references to historical figures, or his fondness for Latin and French phrases—the average reader will be flattered. My students did not enjoy this book.

Consequently, reading *War, Peace, and Victory* is exhausting. One must sort out what looks like outmoded ideas to see if they can safely be discarded ("One can hardly state too plainly that the U.S.S.R., or a successor polity, is *always* going to be a very large military power potentially menacing to its neighbors"). Although the parade of Gray's ideas often seems no better organized than shoppers at a mall, one must think very deeply about his brilliant ideas ("States, particularly democratic states,...are prone to believe that if only that traditional enemy can be overthrown or otherwise strictly contained, a condition of permanent peace can be enjoyed. The fallacy of the last move to peace is a recurring fantasy"). Finally, one must cope with bewildering compound sentences laden with uncommon historical allusions and *bons mots*.

Who, then, should read *War, Peace, and Victory*? Professional strategists. Gray, as always, has much to offer his peers. "Five closely linked themes dominate this book: the unity of strategic phenomena; the influence of geography; the value of historical experience; the power of national culture to help shape expectations, beliefs, and behavior; and the

consequences of technological change for statecraft and strategy." Gray's comments on maritime versus continental strategic choices, the proper respect to be accorded technology (or maneuver warfare), and the strategies pursued by belligerents in both world wars are especially valuable. "If this book has presented a single big idea," Gray urges, "it is that strategy is a unity." "The door to strategic wisdom is opened by the posing of a simple basic question (which is not to say that it is easy to answer)...What is the expected connection between a particular threat or application of force and the desired political outcome to the conflict?" Gray's reflections must be addressed by his fellow strategists, particularly his prediction in the Afterword: "It is not practical, realistic, or even very expedient to assume that anything approximating the current range and weight of military burdens will be required of the U.S. armed forces very far into the twenty-first century."

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Arnett, Eric H., ed. *Science and International Security: Responding to a Changing World*. Washington, D.C.: American Assoc. for the Advancement of Science, 1990. 523pp. \$15

This is an anthology of twenty-eight essays on a variety of topics in international security, with an emphasis on the intersection of these policy issues

with science and technology. Each essay addresses some element of the revision and development of the United States's national security strategy to meet the changes in the international security environment. The work was produced for educators, journalists, and analysts who are concerned with security policy and defense.

Twenty-eight essays about diverse security topics are hard to digest, but it is important to make the effort and, one hopes, do them justice. Of the total, this reviewer has chosen those essays that may be of particular interest to the readers of the *Naval War College Review*.

The lead essay is an adaptation of a lecture given by the former White House chief of staff John Sununu, who is also a nuclear engineer. In it, Dr. Sununu promotes the participation of scientists and engineers in policy formulation. He calls attention to the pervasiveness of technology in all aspects of national security, and addresses the importance of quantitative reasoning. Sununu believes that the technically oriented bring with them a sense of propriety, and that therefore it is their obligation to participate.

Senator John McCain's essay on force structure is interesting because it was written before the Gulf crisis. It is instructive to learn the extent to which his comments were borne out by the events of that crisis.

Richard L. Wagner and Theodore S. Gold use the phrase "long shadow" to describe the downstream impacts

of defense-related science and technology. They discuss how defense research and development will assume an even stronger role than previously, while a greater reliance will be placed on the industrial base to permit timely reconstitution of military forces when they are needed. In this reviewer's opinion, this paper was tantalizing but much too short.

"Reducing Tactical Naval Nuclear Weapons," by Dr. Valerie Thomas of Princeton, suggests that such reductions will most likely result from unilateral actions. An accompanying essay, "Confidence Building Measures," by Adam Siegal and Patrick Cronin, suggests that there is an emerging "acceptance" for some type of naval arms control.

With the end of the Cold War, our ideas and assumptions need challenging and reexamination. National and international security concerns will continue to dominate the political agenda, and we must be sure that our approach continues to be relevant and affordable.

The informed professional military person, in or out of uniform, will benefit from reading this text.

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Kirkpatrick, Charles, E. *An Unknown Future and a Doubtful Present: Writing the Victory Plan of 1941*. Washington: U.S. Army Center for Military History, 1990. 158pp. \$4.95